

## WHAT IS CLAIMED IS:

1 1. A method for fabricating a semiconductor device including  
2 at least one of a ruthenium and a ruthenium oxide, comprising:  
3 ashing a photo-sensitive material over the ruthenium or  
4 the ruthenium oxide using a gas mixture containing oxygen gas  
5 or ozone gas and nitrogen gas, wherein the percentage composition  
6 of nitrogen gas is 50 % or more.

1 2. The method as claimed in claim 1, wherein the ashing is  
2 performed by heating a substrate over which the ruthenium or  
3 the ruthenium oxide is formed at a temperature of 200 °C or more.

1 3. The method as claimed in claim 1, wherein the ashing is  
2 performed after etching an interlayer insulation film on the  
3 ruthenium or the ruthenium oxide using the photo-sensitive  
4 material as a mask.

1 4. The method as claimed in claim 1, wherein the ashing may  
2 be performed after patterning the ruthenium or ruthenium oxide  
3 using the photo-sensitive material as a mask.

1 5. A method for fabricating a semiconductor device including  
2 at least one of a ruthenium and a ruthenium oxide, comprising

3 the steps of:

4 forming a film made of ruthenium or ruthenium oxide over  
5 a substrate;

6 forming an interlayer insulation film on the ruthenium  
7 or the ruthenium oxide film;

8 applying a photo-sensitive material on the interlayer  
9 insulation film and patterning the applied photo-sensitive  
10 material;

11 etching the interlayer insulation film using the patterned  
12 photo-sensitive material as a mask; and

13 ashing the patterned photo-sensitive material using an  
14 ashing gas provided as a mixture of a gas that contains oxygen  
15 gas or ozone gas and a gas that contains nitrogen gas, wherein  
16 the percentage composition of nitrogen gas is 50 % or more.

1 6. The method as claimed in claim 5, wherein the ashing is  
2 performed by heating the substrate at a temperature of 200 °C  
3 or more.

1 7. The method as claimed in claim 5, wherein a contact hole  
2 for exposing the ruthenium film or the ruthenium oxide film is  
3 formed in the step of etching the interlayer insulation film.

1 8. The method as claimed in claim 5, wherein the interlayer  
2 insulation film is made of silicon dioxide.